IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (Currently Amended): A method for diagnosing functional faults of a functional architecture ~~comprising~~ including functions for performing a service in a physical object and associated with sensors and actuators that produce and consume data, ~~the method~~ said method comprising:

mapping said functions onto a hardware architecture composed of hardware components;

measuring a property of said physical object with at least one of said sensors so as to obtain raw data;

~~i)~~ creating a first list of particular values based on said raw data and corresponding to functional faults of the sensors and actuators;

~~ii)~~ creating a second list of particular values corresponding to functional states for said hardware components relative to a propagation of signals through said hardware architecture thereby indicating a state of ~~that permit~~ propagation of information relating to said functional faults of said sensors and actuators across the functional architecture;

~~iii)~~ formulating a functional diagnosis of the service based on the first and second lists of particular values; and

~~iv)~~ recording the particular values and their propagation on a memory device.

Claim 13 (Currently Amended): A diagnostic method according to claim 12, wherein said hardware architecture is an electronic architecture and, after formulating of said functional diagnostic ~~(iii)~~, said method comprises a step of deducing an operational diagnosis

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of ~~an~~ said electronic architecture onto which said functions are mapped, said electronic

architecture comprising calculators, networks, signal lines, and connectors.

Claim 14 (Previously Presented): A diagnostic method according to claim 13,

wherein creating the lists of said particular values is performed after mapping of the functions

onto the electronic architecture.

Claim 15 (Currently Amended): A diagnostic method according to claim 14, wherein

the particular values of the second list correspond to at least one of the following:

cut bus;

corrupted frame;

short circuit applied to a wire;

wrong contact applied to a connector of a strand, sensor, actuator or calculator; and

execution fault applied to a microcontroller.

Claim 16 (Currently Amended): A method according to claim 13, wherein, given said

operational diagnosis for the service, the particular values of the second list comprise

functional particular values associated with sensors, actuators, and the method further

comprising a step of listing functions executing the service for at least one data flow between

two functions, or between a sensor and a function, or between a function and an actuator, for

which no functional particular value is defined for the flow, and wherein if an operational

particular value is defined, then a new functional particular value is automatically determined

for said at least one data flow.

Claim 17 (Previously Presented): A method according to claim 12, further

comprising listing undiagnosed feared incidents to construct an analysis of functional safety

of the functional architecture.

Claim 18 (Currently Amended): A method according to claim 12, ~~wherein said~~

~~functions are mapped onto a hardware architecture composed of calculators, networks, signal~~

~~lines, and connectors,~~

~~and~~ wherein the particular values and feared incidents are listed to deduce an analysis

of functional safety of the functional architecture.

Claim 19 (Previously Presented): A diagnostic method according to claim 12,

wherein the functional architecture comprises an architecture with which a vehicle can be

equipped.

Claim 20 (Currently Amended): A diagnostic method according to claim 12, further

comprising analyzing feasibility and/or susceptibility to failure of functioning of the

<u>functional</u> architecture and analyzing establishment of an output indicating the feasibility

and/or susceptibility to failure.

Claim 21 (Currently Amended): A commercial article provided with a computer-

readable memory, a program executable by a computer being recorded in the memory for

diagnosis of functional faults of a functional architecture<u> including functions for performing a</u>

<u>service in a physical object and associated with a sensor</u>, the program including encoding for:

<u>mapping said functions onto a hardware architecture composed of hardware</u>

<u>components;</u>

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measuring a property of said physical object with said sensors so as to obtain raw data;

i) determining and listing a first plurality of particular values based on said raw data and corresponding to functional faults of said sensor sensors and actuators;

ii) determining and listing a second plurality of particular values corresponding to functional states for said hardware components relative to a propagation of signals through said hardware architecture thereby indicating a state of permitting propagation of information relating to said faults across the functional architecture;

iii) forming a functional diagnosis of the functional architecture based on first and second pluralities of said particular values; and

iv) recording the particular values and their propagation on a memory.

Claim 22 (Previously Presented): A data-processing tool programmed to perform the method for diagnosing functional faults of a functional architecture according to claim 12.

Claim 23 (Previously Presented): A data-processing tool comprising the commercial article according to claim 21.

Claim 24 (Currently Amended): A diagnostic method according to claim 12, wherein said particular values of said second list that permit propagation of said information relating to said functional faults of said sensors and actuators include a value associated with the presence of a connection fault between said hardware components sensors and actuators.

Claim 25 (Currently Amended): A diagnostic method according to claim 24, wherein said connection fault is a short-circuit formed by a wire between said <u>hardware components</u> ~~sensors and actuators~~.

Claims 26-28 (Canceled).

Claim 29 (New): A diagnostic method according to claim 12, wherein said physical object is a vehicle.

Claim 30 (New): A diagnostic method according to claim 29, wherein said sensor is a speed sensor and said property measured with said sensor is a wheel speed for said vehicle.

Claim 31 (New): A diagnostic method according to claim 29, wherein said hardware components include calculators, networks, signal lines, and connectors.